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*Anglesey County Council*



**ANNUAL REPORT**

**OF THE**

**PRINCIPAL**

**SCHOOL MEDICAL OFFICER**

**FOR 1954**

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G. WYNNE GRIFFITH  
*Principal School Medical Officer*  
*and*  
*County Medical Officer*



## ANGLESEY COUNTY COUNCIL

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*To the Chairman and Members of the Education Committee.*

*My Lord, Ladies and Gentlemen,*

I have the honour to present the forty-second Annual Report of the School Medical Service in the County.

The health of the school population insofar as it can be measured by statistical indices, continued to be satisfactory in 1954 and in the body of this report will be found several indications in support of this general conclusion. One exception must be noted—towards the end of the year school children succumbed in large numbers to an epidemic of influenza which proved to be due to the "B" virus. A detailed account of the epidemic will be found as an appendix to this report.

The work of the school medical department proceeded smoothly during the year and the establishment—medical, dental, nursing and clerical, was up to strength. I have in previous reports referred to what I consider to be serious gaps in the service we are at present able to provide, namely, the lack of staff for psychiatric social work and for speech therapy. There is still no prospect of making good these deficiencies.

The year was marked by two important developments—the opening of Rhoscolyn as a day special school and the B.C.G. vaccination of 13-year-old children. Further reference to these developments will be found in the body of the report. It cannot be said, unfortunately, that the proposal, in which the Education Authorities of North Wales are seeking to co-operate, to establish a residential special school for physically handicapped and delicate pupils made any substantial progress during the year. Meanwhile all physically handicapped pupils requiring special educational treatment in a boarding school have to enter schools in England. To the disadvantage of distance is added, in some cases, the difficulty of language.

Once again the report does not contain detailed reference to unsuitable and insanitary school premises. Routine reports on these matters are brought to the attention of the Director of Education from

time to time following visits paid to schools. There are, nevertheless, a few schools which suffer from serious sanitary defects, and I feel the time has come to settle future policy as regards these schools.

In the financial year 1954/5 the approximate gross cost of the school medical service amounted to £15,000, which is equivalent to an expenditure of 36/3d. per school child. After allowing for Government Grants the approximate rate-borne expenditure represented a rate of 3.7d. for the year or an expenditure equivalent to 8/- per head of the school population.

I am indebted to the several consultants for the help they have readily given. It is a pleasure, too, to acknowledge the interest taken in the work by the Chairman and members of the School Children Welfare Committee. I wish also to thank the Director of Education and his department for their valuable assistance, the Superintendent Nursing Officer, and the school nurses for their loyal services, and not least, my professional colleagues and office staff for the excellence of their work and their help in the preparation of this report.

I am,

Your obedient Servant,

G. WYNNE GRIFFITH,  
*Principal School Medical Officer.*

July, 1955.

## MEMBERS OF ANGLESEY EDUCATION COMMITTEE, 1954/5

*Chairman*: Alderman G. Ll. Williams, J.P.\*

*Vice-Chairman*: Mr. R. Davies, J.P.\*

*Chairman of School Children Welfare Committee*: Alderman H. R. Evans.

*Vice-Chairman of School Children Welfare Committee*: Mrs. M. Hughes, B.E.M.

Lord Anglesey

Mr. C. W. Beretta

Alderman R. D. Briercliffe,  
C.B.E., J.P.

Mr. J. F. Chadwick, M.C., B.A.

\*Mr. William Davies

Mr. Clarence Ellis, M.A.

Mr. David Evans

Alderman David Evans, J.P.

†\*Lady Emrys Evans

Mr. O. Glynn Foulkes

\*Mr. O. Griffith

\*Mr. G. W. Gruffydd

\*Rev. D. R. Hughes

\*Mr. R. L. Hughes

Mr. R. J. Hughes-Owen

Mr. O. T. L. Huws

\*†Mrs. A. Arthur Jones

Mr. A. Ifan Jones, M.B.E., J.P.

Mr. Hugh Jones, J.P.

Rev. J. Lambert Jones

\*Mr. Llewelyn W. Jones, M.P.S.

Alderman O. R. E. Jones, J.P.

Mr. Percy O. Jones

\*Mr. R. D. Jones

\*Mr. T. Grey Jones

\*Mr. T. H. Jones

\*Mr. T. O. Jones

\*Mr. R. J. Jones

Mr. J. Hugh Lewis, J.P.

Mr. Llewelyn Lewis

\*Mr. John Lloyd

\*†Mr. T. Lovett, M.Sc., A.R.I.C.

\*Mrs. J. Morris

Mr. E. R. Oliver

\*Mr. W. Charles Owen

Alderman Ellis Pritchard

Alderman Griffith Pritchard

Mr. O. M. Pritchard

\*Alderman R. O. Pierce, J.P.

\*Mr. H. Pritchard

Alderman W. T. Prytherch, J.P.

\*Mr. H. K. Roberts

Mr. I. O. Roberts

\*†Mr. John Roberts

†Prof. R. Alun Roberts, Ph.D.

\*Mr. Robert Roberts, J.P.

Mr. A. Robertson

Alderman R. B. Rowlands, J.P.

Capt. W. Parry Jones

Mr. W. Pritchard Jones

Alderman W. Shubert Jones,  
B.Sc., J.P.

\*Mrs. Walter Jones, J.P.

\*Alderman Sir Wynne Cemlyn  
Jones

\*†Mrs. E. Thornton Jones, J.P.

Alderman John Lewis, J.P.

Mr. J. Hugh Thomas

Mr. David Thomas

†Principal Richard Thomas,  
M.A., D.Sc.

Alderman William Thomas

Sir Harry Verney, Bart., D.S.O.

\*Mr. E. R. Williams

†Sir Ifor Williams, M.A., D.Litt.,  
F.B.A.

Alderman Col. Lawrence Williams,  
O.B.E., D.L., J.P.

\*Mrs. E. G. Williams, J.P.

~~Mr. G. K. Williams~~

Mr. J. Morris Williams

\*Mr. R. Pierce Williams

Alderman W. D. Williams

Alderman W. O. Williams

Sir Richard H. D. Williams-  
Bulkeley, Bart., J.P.

\* Member of the School Children Welfare Committee

† Added member of the Education Committee

*Director of Education:* E. O. Humphreys, M.A., B.Sc.

## STAFF

Principal School Medical Officer  
and County Medical Officer of  
Health

G. Wynne Griffith, M.D., D.P.H.

School Medical Officers (also  
Medical Officers of Health of  
County Districts)

G. H. Browse Roberts, M.A.,  
M.B., B.Ch., B.A.O., D.P.H.,  
L.M.

H. Mervyn Thomas, M.B., Ch.B.,  
D.P.H., D.C.H. (Left 31.7.54)

T. Duly Thomas, M.B., Ch.B.  
(Temporary) (Commenced  
23.8.54)

School Medical Officer (also Asst.  
C.M.O.H.)

Mrs. Mair Humphreys Jones,  
M.B., Ch.B., C.P.H.

School Dental Surgeons

Elwyn Jones, L.D.S.

C. Rolant Thomas, M.R.C.S.,  
L.R.C.P., L.D.S.

Dental Attendants

Mrs. Megan Pritchard (Left  
31.3.54)

Miss Edna M. Jones

Miss Gwen Jones (Commenced  
1.4.54)

Consulting Paediatrician	*Gwyn R. Griffith, M.D., F.R.C.P., D.P.H., D.C.H.
Chest Physician	*J. Glyn Jones, M.A., M.D., M.B., B.Ch., M.R.C.S., L.R.C.P.
Consulting Child Psychiatrist	*E. Simmons, L.R.C.P.
Consulting Ophthalmic Surgeons	*T. G. Wynne Parry, M.R.C.S., L.R.C.P., D.O.M.S.  *G. C. Laszlo, M.D. (Budapest), L.R.C.P. (Edin.), D.O. (Oxford)
Consulting Orthopaedic Surgeons	*Prof. B. L. McFarland, M.D., M.Ch.Orth., F.R.C.S.  *G. I. Roberts, M.B., Ch.B., M.Ch.Orth., F.R.C.S.
Consulting E.N.T. Surgeon	*John Roberts, F.R.C.S.
Orthoptist	§Miss Joy Miller (Left March 1954)  §Miss G. Powell (Commenced 1.9.54)
Physiotherapists	§Miss G. N. Holme, M.C.S.P.  §Miss B. M. Hughes, M.C.S.P. (Left 26.6.54)  §Mrs. E. Hughes, M.C.S.P. (Commenced 13.9.54)
* Under contract with Regional Hospital Boards	
§ Employed by the Caernarvon and Anglesey Hospital Management Committee.	
Superintendent of School Nurses (also Supt. Nursing Officer)	Miss H. V. Parry, S.R.N., S.C.M., Q.N., H.V. (Cert.)
Deputy Superintendent of School Nurses (also Deputy Supt. Nursing Officer)	Miss M. Rh. Parry, S.R.N., S.C.M., H.V. (Cert.)



## School Nurses

Mrs. Cotgreave

†Miss Gwladys Hughes

†Miss E. C. Parry

†Miss E. C. Pritchard

†Mrs. M. M. Williams

†Miss G. Pritchard

†Miss E. Owen (Left 4.9.54)

†Miss A. Williams (Commenced  
1.1.54)†Miss M. Williams (Commenced  
1.1.54)

## Chief Administrative Assistant

Horace Betts, D.P.A.

## Clerical Staff

Maldwyn Jones

Mrs. Eluned Griffith (nee Jones)

Miss D. M. Williams

R. J. Jones

Miss E. C. Parry

Miss Eunice Jones

Miss N. M. Williams

† Also Health Visitors.



## REPORT OF THE PRINCIPAL SCHOOL MEDICAL OFFICER

### THE RESULTS OF MEDICAL INSPECTION

The school population on 9th January, 1954, was:—

Primary Schools .....	5,146
Secondary Schools .....	3,133
	8,279

The work of medical inspection is detailed in tables at the end of this report. The statistics reflect a satisfactory state of health among the school population. During the year there were 5 deaths of children aged 5 to 15 years (a death rate of approximately 0.6 per 1,000 school population per annum). The causes of death were: Pseudo-hypertrophic muscular dystrophy, Measles, Accidental burns, Broncho-pneumonia and Nephritis.

Details of notifiable diseases for the year are appended, showing the total occurring at all ages and the number among children of school age. The table includes cases diagnosed in Caernarvonshire hospitals and therefore notifiable to the Medical Officer of Health of the district in which the hospital is situate.

Disease	Urban	Rural	Total	No. of School-age Children
Diphtheria .....	—	—	—	—
Scarlet Fever .....	63	36	99	65
Ac. Poliomyelitis* .....	2	2	4	1
Ac. Pneumonia .....	4	17	21	2
Dysentery .....	1	2	3	1
Malaria‡ .....	1	—	1	1
Food Poisoning .....	4	54	58	2
Measles .....	25	134	159	100
Whooping Cough .....	122	46	168	83
Paratyphoid .....	—	1	1	—
Salmonella Typhimurium .....	—	1	1	1
<b>TOTAL .....</b>	<b>222</b>	<b>293</b>	<b>515</b>	<b>256</b>

‡Contracted abroad.

\* 3 Paralytic and 1 non-paralytic.

There was considerably less *measles* than in the previous year but *whooping cough* prevalence remained at the same level. Our comparative freedom from *poliomyelitis* continued and for the fifth successive year there were no cases of *diphtheria*. The main feature of the year's epidemiology was an epidemic of *influenza* due to the

"B" type virus in the latter half of the autumn term. This is described in detail in the appendix to the report.

School attendance was good. In the primary schools the average attendance was 90.5 per cent. of the children on register, and in the county secondary schools the attendance was 91 per cent. The corresponding figures for 1953 were 88 and 92 per cent. respectively.

As will be seen from Table IIA. on page 23, the commonest defects discovered at routine medical inspection are defects of vision, including squint, and defects of the nose and throat. Minor orthopaedic departures from the normal, flat feet and postural defect, are frequently noted, but the severe crippling defect is happily not often seen. Otitis media continues to be numerically a minor problem, and a few cases only of the infectious skin diseases, scabies, impetigo and ringworm were discovered.

### GENERAL CONDITION AND NUTRITION

The data relating to general condition and nutrition (to be found in Table IIB on page 24) have been expressed as percentages in the table given below, which also gives the comparable figures for 1953 in parenthesis.

ROUTINE MEDICAL INSPECTION 1954—CLASSIFICATION OF  
GENERAL CONDITION (PERCENTAGES)

	A (Good)	B (Average)	C (Poor)
Entrants .....	43.8 (25.7)	53.9 (71.7)	2.3 (2.6)
Intermediate (10 year-old) Group .....	41.9 (19.7)	56.6 (79.2)	1.5 (1.1)
Leavers .....	55.0 (37.6)	44.6 (61.1)	0.4 (1.5)
Other Groups .....	27.0 —	71.6 —	1.4 —
ALL GROUPS .....	47.4 (27.3)	51.3 (70.8)	1.3 (1.9)

The percentages of children in Class A show an increase, and in Class B, a decrease. The percentage of children found to have "Poor" general condition has remained more or less constant in recent years.

The interpretation of these trends is not straightforward, especially as the classification is a purely subjective one, and medical officers vary in the standard they adopt.

The *Milk in Schools* scheme continued to operate satisfactorily. Every school is supplied with pasteurized milk in one-third pint bottles. Messrs. Cadbury Ltd., have agreed to continue this valuable service which the Milk Marketing Board had provided for many years.

The average number of meals served by the *School Meals Service* per school day was 6,137, and this number represents approximately

74 per cent. of the school population. This figure is almost the same as that (75 per cent.) for last year.

Taking the number of meals provided as a yardstick, the Education Committee is undoubtedly the largest catering concern in the county, and the standard of food hygiene in school canteens is therefore a matter of considerable interest. When visiting schools the school medical officers pay particular attention to food hygiene in canteens.

## TUBERCULOSIS

### *Notifications of Tuberculosis*

During the year 8 cases of tuberculosis were notified among children of school age. This was a considerable decrease on the number (17) for 1953.

The form taken by the disease in this series was as follows:—  
(The numbers in brackets are the corresponding figures for 1953).

Non-respiratory forms .....	2	(4)
Glands of neck ... ..	1	
Abdominal .....	1	
Adult type respiratory tuberculosis .....	4	(2)
Primary chest infections .....	2	(11)

### *B.C.G. Vaccination:*

One of the measures of prevention at our disposal is B.C.G. vaccination, and 75 school age contacts of cases were examined with a view to this treatment being given. After testing 49 were vaccinated during the year.

### **B.C.G. Vaccination of senior school children:**

In 1954 for the first time, B.C.G. vaccination was offered to all school children who were in their fourteenth year and the programme proceeded without any serious difficulty being encountered. That it should have been so is due to the helpful co-operation of the headteachers, the nursing and clerical staff and the chest physician. We had to deal with only four county secondary schools and the concentration of senior children in a small number of centres greatly facilitated the arrangements. At the request of the Board of Management, the cadets of H.M.S. Conway were also tested and vaccinated.

The lists of children in the age-group were scrutinised and the name of any child who had already received B.C.G. vaccination (as

a contact) or who was known to be recently tuberculin positive, was excluded. The residual lists were checked against the school registers to ensure that no names had been omitted. A letter was then posted to the parent of every child, explaining the scheme, and asking for the consent form (which was attached) to be returned by a certain date in a stamped envelope, which was enclosed. This method of obtaining consent has its disadvantages—it is rather costly in clerical time and postages and it calls for a positive act on the part of the parent. On the other hand it was felt that a signed form of consent should be obtained, and no child was vaccinated unless the form had been returned duly signed. In the event, the method produced a very satisfactory response. Out of 606 forms sent out for secondary school children, 490 or 81 per cent were returned duly signed. In H.M.S. Conway there were special circumstances which accounted for the even higher consent rate of 87 per cent.

There was a small rate of wastage (3 per cent.) due to absence on the day of testing, but a total of 475 secondary school children were eventually tested.

The test used was the multiple puncture tuberculin test with the "Heaf Gun." The test is applied to the front of the left forearm, the skin having been cleaned with ether, through a small film about the size of a shilling of adrenalised pure old tuberculin spread with a sterile platinum loop. No dressing is necessary but after testing, the film must be allowed to dry for two or three minutes before the sleeve is rolled down. It was found in practice that a rate of 100 tests per hour could be achieved without difficulty provided several "guns" were used so that the apparatus could be flamed and allowed to cool in between tests, and a nurse was available to prepare the skin. Indeed, with these arrangements the marshalling of children was the only "bottle neck" in the process.

Experience with this test has confirmed the view that there is no reason why a trained school nurse should not apply it and arrangements for B.C.G. vaccination in future will include the application of this test by a nurse trained in its use.

The test was read after an interval of three days (72 hours) and the criterion used was the presence or absence of induration. Rarely was it found that the test was difficult to interpret.

Positive reactors were referred to the mass radiography unit. Arrangements had been made with the Welsh Regional Hospital Board for a mobile mass radiography unit to be at the school on the day the tests were being read. The ready co-operation of the Welsh Regional Hospital Board in this important matter is gratefully acknowledged. Delay between reading a positive test and chest radiography is to be avoided if at all possible. The value of a "clear"



X-ray report in reassuring the parent of a "positive" reactor cannot be over estimated.

Negative reactors were vaccinated intradermally over the insertion of the left deltoid muscle with B.C.G. vaccine. The dose used was 0.1 ml. and the skin was cleaned beforehand with ether. The injection was always strictly intra-dermal and a wheal always resulted. No dressing was necessary. The needles used were No. 20 size and the syringe was an all-glass tuberculin hypodermic syringe. Through the kind offices of the consulting chest physician we were supplied with sterile drums containing sets of 20 needles. A sterile needle was used for each case and as an adequate number of sets had been prepared in the drums, no sterilisation had to be undertaken while the vaccination session was in progress. Given adequate help in marshalling the children, and with the clerical work, and a nurse to cleanse the skin, it was found in practice that one doctor could maintain a rate of 75 vaccinations an hour without difficulty.

The vaccinations were inspected after a lapse of 6 weeks and in many instances the size of the lesion was recorded. In addition all vaccinated children were given another multiple puncture test which was read after three days in the normal way.

#### *Tuberculin sensitivity:*

The tuberculin positive children in the secondary schools are in one of two groups: 35 out of 642 children on the school registers were known to be positive for the following reasons:—

Notified in the past as suffering from tuberculosis .....	11
Found to be tuberculin positive in the recent past .....	14
Had already received B.C.G. vaccination .....	10

These 10 children, had they not been vaccinated, might or might not have become positive naturally: the percentage of children who are known to be naturally positive is thus somewhere between  $25/642 \times 100 = 3.9$  per cent. and  $35/642 \times 100 = 5.5$  per cent.

The second group was the 100 positive reactors (out of 468 children whose test was read), that were newly discovered. This represents 21.4 per cent..

The total percentage positive among children aged 13 to 14 years was thus somewhere between 25.3 per cent. and 26.9 per cent.

This percentage (approximately 26 per cent.) of positive reactors in this age group is perhaps rather below the average of recently reported surveys. Gemmill, for instance, in Glasgow in 1953 found 37 per cent. positive reactors to the Mantoux test. In the Rhondda Fach survey reported in 1952 there were 33 per cent. positives at this age and in the M.R.C. Report the average figure for all areas

surveyed in England and Wales was 41 per cent. Murray and his colleagues reported a comprehensive survey from Musselburgh conducted in 1953 with 47 per cent. positive in the 13 year-old age group. Palmer, reporting on a survey in London (1954) found 25 per cent. positive.

Among the cadets of H.M.S Conway there were 115 positive reactors out of 263 tested (43.7 per cent.) The higher percentage was not unexpected as the average age of the cadets was 15.8 years.

#### *Radiography of Positive Reactors:*

The tuberculin tests had revealed 215 unsuspected positive reactors, 100 among the pupils and 115 among the cadets.. These were all examined radiologically with the following results:

No abnormality found ..... 205

Referred to chest physician ... 10—of these, 7 had evidence of healed primary complexes, and three were kept under observation. 8 months later, two were still under observation by the chest physician.

#### *Re-Testing:*

After an interval varying between 41 and 45 days the vaccinated pupils were re-tested using the multiple puncture test as before. Only 18 out of a total of 523 were not tested.

Without a single exception the vaccinated pupils on re-test gave a positive reaction.

In 297 instances a detailed note was made of the condition of the B.C.G. lesion with the following result:—

Induration only .....	230
Papule .....	12
Vesicle .....	24
Ulcer .....	31

The size of the local lesion was measured:

Size in mms.	No. of cases
5 and under ... ..	21
6—8 ... ..	67
9—11 ... ..	120
12—14 ... ..	53
15—17 ... ..	19
18—20 ... ..	13
21 and over ... ..	4

The smallest lesion recorded was 4 mm. and the largest was 26 mm.

## THE WORK OF THE SCHOOL NURSE

The table printed below gives some indication of the volume of work done by the school nurse/health visitors.

	No. of schls. in district	Total average att'dance	No. of Exam- inations	No. of visits to homes	No. of visits to schools
Amlwch .....	6	1049	2462	207	85
Beaumaris .....	5	899	3699	123	85
Bodedern .....	8	527	3791	132	107
Bodorgan .....	7	429	4028	87	95
Holyhead .....	10	2147	8112	1334	195
Llanfechell .....	8	404	4360	57	123
Llangefni .....	5	1149	2042	34	82
Marianglas .....	8	447	3342	132	92
Menai Bridge .....	6	533	4895	128	119
<b>TOTAL .....</b>	<b>63</b>	<b>7584</b>	<b>36731</b>	<b>2234</b>	<b>983</b>

The work done by school nurses in the prevention of infestation with vermin deserves high praise. The nurses made 36,731 inspections, which is equivalent to every child being examined on the average four times during the year. The number found to be verminous was 211, or 2.5 per cent. of the school population. The number of cases of infestation shows an increase for the third successive year: 1951, 64 cases; 1952, 98 cases; 1953, 105 cases.

Our arrangements for dealing with this condition are at present under review.

The school nurses still attend to minor ailments when required, and the majority of the 560 cases noted in Group VII of the Treatment tables in the appendix (page 25) were, in fact, seen by the nurses. These include the abrasions, bruises, cuts, stings and similar happenings of school life which call for sympathetic attention. We are fortunate in that impetigo, ringworm and scabies are still being encountered but rarely.

### MOBILE MINOR AILMENTS CLINIC

As was suggested in a previous report, this vehicle is rather inappropriately named. It has been used mainly as an "examination room on wheels."

Some details concerning the work of the clinic during the year are given below:—

Number of visits to schools .....	432
Mileage covered .....	7,268
Number of minor ailments treated .....	225



Number of routine cleanliness, etc., inspections made ...	22,565
Number of children seen for other reasons .....	240
Total number of children seen .....	23,030

It will be noted that more than 60 per cent of all cleanliness inspections are carried out in the mobile clinic.

### ORTHOPAEDIC CARE AND AFTER-CARE

The following table sets out the work done by the physiotherapists : —

Centre	No. of Clinics held	No. of Home Visits	No. of Cases	No. of Treatments	U.V.R.	
					No. of Cases	No. of Treatments
Holyhead .....	41	—	77	766	93	310
Llangefni .....	39	17	65	287	5	51
Amlwch .....	39	12	63	465	11	91
Menai Bridge .....	34	—	48	316	14	96
Beaumaris .....	36	—	48	497	12	103
	189	29	301	2331	135	651

Total number of names on the books during 1954 ...	...	531
Total number of cases discharged during 1954 ...	...	200

Breathing exercises, etc., have also been given in the five clinics to over 90 cases referred by hospitals.

During the year 337 attendances were made by 226 individual children at the 11 Orthopaedic Clinic sessions held at Holyhead and Llangefni, an average attendance of 31 per session.

The protracted argument about financial responsibility for the work of these clinics appears no nearer conclusion, even after a lapse of seven years. Uncertainty on this score has had an unfortunate effect on the development of physiotherapy services but the committee, I am pleased to record, have now decided to remedy certain outstanding defects in staffing and equipment without prejudice to any final settlement which may be reached.

### PHYSICAL EDUCATION

I append the report of the Physical Training Organiser : —

"The standard of Physical Education was not as high during 1954 owing mainly to very inclement weather. Classes could not be taken out of doors regularly and few schools in the County have indoor facilities for this type of work.

Unfortunately, no heaving or climbing frames or other large apparatus were supplied to the Primary Schools this year although some schools are ready for work using this equipment. Anglesey was one of the leading counties in Wales to install this equipment in its schools but apparently it was financially impossible to do anything further this year. It is surprising to see the difference in the children generally through the use of this type of equipment; they have more confidence in themselves, they are more agile, alert and responsible and prepared for the more demanding, detailed work which is done in the Secondary Schools. Small apparatus were not supplied to the schools either this year and I feel that if the work done in the schools is to be up-to-date and of a higher standard, large and small apparatus for use in the Physical Education periods should be provided.

Plimsoll shoes were again supplied to the schools, the Primary Schools being quite well equipped and the Secondary Schools having a small supply only in comparison to numbers. These shoes being not particularly hard-wearing, constant replacements are required.

A Refresher Course in Physical Education for Teachers in Primary Schools was held at the County Secondary School, Holyhead, on Wednesday evenings, November 10th, 17th and 24th. An average of 32 teachers attended each session. The purpose of the Course was to show and discuss the type of work suitable to the Primary School children. I took classes of Infants and Juniors in specimen lessons and some practical work with the teachers. Mr. H. R. Davies, H.M.I., visited the Infants' session on November 10th, and Miss Hopkins-Jones, H.M.I., the Lower Junior class on November 17th. I would like to take this opportunity to express my appreciation to the Head-teachers and Staffs of the St. Cybi Infants' School and the St. Cybi Junior School and the children who took part, for their willing co-operation; the Governors and Headmaster of the Holyhead County Secondary School for allowing the Hall to be used for the Course.

A successful County Athletics meeting was held at Holyhead on Tuesday, June 1st, where the four County Secondary Schools competed in a full programme. The Meeting included events for boys and girls in four age sections. The standard of Athletics was good, nineteen records being broken. Holyhead County Secondary School again won the Hives Shield, winning on points gained in all four age sections and also the Relay Cup, winning six out of seven Relay events.

A Representative Team of boys competed at the National Athletics Meeting, Cwmbran, July 10th where they improved slightly on their performance in previous years. Anglesey was placed tenth in the Counties List and the team gained six places and twelve standards.

The Anglesey Junior Football Team very successfully reached the quarter finals of the Welsh Schools Shield Competition, having beaten

South Caernarvonshire and Arvon, this match being against Merthyr Tydfil early in 1955

Unfortunately, it was not possible to compete in the English Schools Shield owing to lack of funds.

The County Hockey Match against Caernarvonshire and the North Wales Hockey Tournament were both cancelled this year owing to bad weather conditions making the pitches unfit for play.

Cricket and Tennis are not up to County standard at this stage owing to lack of facilities and opportunities.

The Anglesey Secondary Schools Sports Association is to be commended on its work in arranging these activities on a County and National level and I hope that this good work will be carried on far into the future.

EIRLYS W. ROBERTS"

### DEFECTIVE EYESIGHT AND SQUINT

The ophthalmic service for school children continued to operate satisfactorily during the year as far as the examination of children and the prescription of glasses were concerned, although at one time there was a considerable "back-log" of cases awaiting appointments for consultations. Forty-three clinics were held during 1954 and by the end of the year the waiting period for appointment had been reduced to 5 or 6 weeks. 593 children were examined for errors of refraction and 45 for other defects; 521 prescriptions for spectacles were issued, and spectacles were supplied in 464 cases. Operative treatment for squint is available at the Caernarvon and Anglesey Hospital, Bangor, and during the year 7 cases were operated upon.

No statistics can be supplied for the work done by the orthoptist because during 1954 this service was rather disorganised through the departure of Miss Miller, the orthoptist, and the unavoidable delay before her successor took up her duties. We welcome Miss G. Powell to the area and feel certain she will be well received by her young patients and their parents. Anglesey cases are seen by the orthoptist at Bangor and Holyhead.

The school nurses continued to test the eyesight of 7-year-old children and to refer doubtful cases for the opinion of the school doctor. This form of screening can be valuable in detecting defective vision at an early stage. During the year 522 children were tested by the nurses and 92 referred for further examination. In addition the school nurses test the corrected vision of children wearing glasses and

if in doubt about the suitability of the spectacles refer the case for further examination. During 1954 they examined 107 such children and referred 30 to see the school doctor.

### DISEASES OF THE EAR, NOSE AND THROAT

All consultations and operations for conditions of the ear, nose and throat are held at the Caernarvon and Anglesey Hospital, Bangor

These are among the commonest causes of ill-health among children, and during the year 130 cases were referred for a specialist opinion, and 142 cases were operated upon, mostly for the removal of tonsils and/or adenoids.

The position regarding the availability of these services is indicated below : —

Number of children waiting : —

	(a) Consultation	(b) Operation
At 31.12.54 .....	8	4
At 31.12.53 .....	9	10

These figures show a considerable improvement on the position a few years ago when, in December 1950 for instance, 54 children awaited an appointment for consultation and 32 awaited operation. At the present time the waiting period has been reduced to 2 or 3 weeks unless some exceptional circumstances arise.

### HANDICAPPED PUPILS

Category	Number ascertained during the year 1954	No. on the register of H.P.s at 31.12.54
Blind .....	1	3
Partially sighted.....	—	3
Deaf .....	—	3
Partially Deaf .....	3	11
Delicate .....	3	9
Educationally sub-normal .....	45	155
Epileptic .....	—	—
Maladjusted .....	1	3
Physically handicapped.....	1	9
Multiple Defects .....	2	6
Speech Defects .....	3	16
	59	218

Number of cases dealt with during the year under the Education Act, 1944 :

Section 57 (3).....	2
Section 57 (5).....	6



Much work was done during 1954 in the ascertainment of handicapped pupils and at the year's end the number of such pupils on the register had increased by 36 compared with 1953. As will be seen, the difference may again be ascribed largely to an increase in the number of pupils ascertained to be educationally sub-normal.

The number of children ascertained as being handicapped by reason of speech defect has increased to 16. No doubt there are several more such children who would be brought to notice were facilities for treatment easily available.

The following table shows the number of pupils admitted to special schools during the year and the number in attendance at such schools on the 31st December:—

Category	No. admitted 1954	No. in att'ce. at Dec. 31	No. waiting adm. Dec. 31
Blind .....	—	—	2
Partially Sighted .....	—	1	—
Deaf .....	—	3	—
Partially Deaf .....	1	2	—
Delicate.....	2	1	3
Educationally Sub-normal .....	44	60	45
Epileptic .....	—	—	—
Maladjusted .....	1	3	—
Physically handicapped .....	1	1	1
Multiple Defects .....	2	3	1
Speech .....	—	—	—
<b>TOTALS .....</b>	<b>51</b>	<b>74</b>	<b>52</b>

### *Rhoscolyn Day Special School*

The problem of providing education suited to their age, ability and aptitude for boys and girls who are academically backward compared with their contemporaries, has long exercised the committee. The development of the necessary special educational provision in a scattered rural area presents special difficulties and yet the need is no less than in the towns. Hitherto our backward children could receive special educational treatment only by being sent to residential schools outside the county and vacancies have always been difficult to obtain. Only one school (Treborrh Hall in Caernarvonshire) is able to provide tuition in the Welsh language and ever since Treborrh was first opened in 1950 our quota of places has always been fully taken up; indeed, for some time there has been a long waiting list of our children recommended to and accepted as suitable for this school. For some years the Headteachers of the secondary schools have tended to collect the more backward children in one or two classes where the tuition could, if necessary, concentrate on the

rudiments of word and number. Provided the child's academic handicap is not too severe this tendency is to be encouraged for by remaining in the ordinary school, the child is given an opportunity to participate as fully as he can in general school activities and this participation may be vitally beneficial in the development of his personality. Furthermore, he can live at home—and unless the home is grossly unsatisfactory, that is as it should be.

But before the "special class" can make its due contribution to solving this problem, two conditions must be met. In the first place the child's retardation must not be too severe. If the child is so retarded that the curriculum has to be radically modified before the child can benefit from it, the child needs to be not in a special class but in a special school. Secondly, special classes *must* be small classes and if this rule is observed it follows that the staffing ratio of pupils to teachers for the whole school must recognise that there *are* special classes in the school, otherwise the interests of the other children will be prejudiced.

In the Holyhead area the committee considered there was a case for an all-age special school but the Ministry took the view that the numbers involved would not be sufficient to enable a school to be efficiently organised bearing in mind the language factor. Eventually, the Ministry agreed to a junior day special school at Rhoscolyn for an experimental period of three years. The school opened on September 1st with Mr. T. H. Breese as headmaster, and 40 children aged from 7 to 11 years on the register. The autumn term was naturally a period of adjustment but the school settled down happily in a remarkably short time.

This school will serve, for the town of Holyhead and the countryside around, a variety of functions. For some children it will be a place where, for a year or two only, they attend to receive intensive instruction in basic subjects such as will enable them to take their place in due course with their contemporaries in the ordinary stream. For other children, less generously endowed intellectually, it will be the school they shall attend for the whole of their junior school life. These children, at best, are destined for special classes when they reach secondary school age. In addition the school will serve as a proving ground for the young borderline ineducable child. These children will stay only long enough to enable a diagnosis to be made after adequate observation of their behaviour, progress and response.

Should the experiment prove a success and Rhoscolyn become established, the committee will have to consider its enlargement to provide special educational treatment for all suitable children in the county. This would mean attaching a hostel to the school where

children from further afield would reside during the week, returning home at week-ends. The enlargement envisaged might also involve extending the age range to include senior children. These are possibilities for the future. Meanwhile, Rhoscolyn will be watched with interest as an attempt to give the dull child a fair deal. ,

### *Penhesgyn*

Penhesgyn is a small sanatorium for girls of school age suffering from tuberculosis (normally of the "primary" type of lesion). This institution is managed by the Caernarvon and Anglesey Hospital Management Committee, but the Anglesey Education Authority is responsible for the provision of education facilities. On the 31st December, 1954, there were 10 children in the hospital, 6 being Anglesey cases. One of the school dentists pays periodical visits.

### *Child Guidance*

Children showing evidence of being emotionally disturbed are referred to the Child Guidance Clinic which is held at Bangor under the direction of a consulting child psychiatrist on the staff of the North Wales Hospital for Nervous and Mental Disorders, Denbigh.

The number of new referrals in 1954 was 21, of which five were referred by general practitioners, five were referred from hospitals, one by a parent, and the remainder were referred through the school health service.

The number of first attendances during the year was 19 and the number of further attendances was 55. In addition, 8 visits were paid to homes by the social workers.

## DENTAL SERVICE

The Authority's dental service was up to establishment throughout 1954.

The statistics relating to dental work will be found in Table IV on page 25 where it will be seen that 79 per cent. of the school population were inspected for dental defects.

As usual, dental defects were found to be very common, 75 per cent. of the children inspected being considered in need of treatment.

Dr. C. Rolant Thomas reports as follows:—

"The mobile unit has been in constant use during the past year and proved itself indispensable in an area where there is not, as yet, a static clinic. The amenities of good lighting and equipment benefit both operator and patient, and the teaching staff are relieved of the inconvenience of giving up much needed school accommodation.



"The increase in the number of children requiring dental treatment continues, and the amount of treatment required per patient also increases. This marked dental deterioration in all age groups is disturbing and can be attributed largely to the increased consumption of sticky foodstuffs and of sweets, and to the deplorable oral hygiene of so many of the children.

"I would like to thank the teaching staffs of the schools and the health visitors of this area for all their help and co-operation which assist greatly the smooth running of the School Dental Clinic."

Mr. Elwyn Jones reports as follows:—

"Once again I have to report that the dental condition of school-children in the section of Anglesey allotted to me is poor.

"With the provision of school meals and the amenities provided by the School Medical Service, the poor teeth cannot be attributed to malnutrition and one is forced to blame the lack of the use of the toothbrush.

"No matter how often the children are exhorted to clean their teeth regularly, they soon fall back on their bad habits. It is to be regretted that a bigger proportion of parents do not ensure the regular use of the toothbrush from an early age thus forming a habit in its use.

"The rate of consent to treatment is not encouraging although a fair number of children, especially in urban areas, do attend their private dental surgeons.

"It is pleasant to look forward to the introduction of Fluoridation of the water when it is certain a vastly improved state of affairs can be reported.

"My thanks are due to the Nursing Staff and also members of the Teaching Staff for unfailing help and consideration."

## MEDICAL INSPECTION RETURNS

Year ended 31st December, 1954.

TABLE 1.

Medical Inspection of pupils attending Maintained Primary and Secondary Schools (including Special Schools).

## A.—Periodic Medical Inspections

*Number of Inspections in the prescribed groups :*

Entrants ... ..	920
Second Age Group ... ..	739
Third Age Group ... ..	1168
Total ... ..	2827
Number of other periodic inspections ... ..	74
Grand Total ... ..	2901

## B.—Other Inspections

Number of special inspections ... ..	778
Number of re-inspections ... ..	2009
Total ... ..	2787

## C.—Pupils Found to Require Treatment

Number of individual pupils found at Periodic Medical Inspection to require treatment (excluding Dental Diseases and infestation with Vermin) :—

Group	For defective vision (excluding squint)	For any other conditions recorded in Table II.A	Total individual pupils
Entrants .....	12	127	136
Second Age Group .....	53	67	114
Third Age Group .....	85	82	166
Total prescribed Groups .....	150	276	416
Other periodic inspections.....	1	9	10
Grand Total .....	151	285	426

TABLE II.

## A.—Return of Defects Found by Medical Inspections.

Defect Code No.	Defect or Disease	Periodic Inspections		Special Inspections	
		<i>No. of Defects.</i> Requiring treatment	<i>No. of Defects.</i> Requiring to be kept under obs. but not re- quiring treatment	<i>No. of Defects.</i> Requiring treatment	<i>No. of Defects.</i> Requiring to be kept under obs. but not re- quiring treatment
4	Skin .....	19	14	11	5
5	Eyes : a. Vision .....	151	80	177	133
	b. Squint .....	50	32	50	42
	c. Other .....	12	6	16	9
6	Ears : a. Hearing .....	2	6	5	5
	b. Otitis .....				
	Media .....	3	6	—	4
	c. Other .....	2	2	2	2
7	Nose or Throat .....	75	83	44	38
8	Speech .....	3	3	3	5
9	Cervical Glands .....	28	37	14	13
10	Heart and Circulation ...	1	14	2	6
11	Lungs .....	21	40	126	36
12	Developmental :				
	a. Hernia .....	5	4	5	—
	b. Other .....	9	8	15	9
13	Orthopaedic :				
	a. Posture .....	8	5	3	3
	b. Flat Foot .....	38	8	20	10
	c. Other .....	16	15	14	8
14	Nervous System :				
	a. Epilepsy .....	1	5	—	7
	b. Other .....	2	5	1	5
15	Psychological :				
	a. Development .....	2	8	94	6
	b. Stability .....	3	3	20	2
16	Other .....	49	127	41	57

TABLE II. (Continued)

**B.—Classification of the General Condition of Pupils Inspected during the year in Age Groups**

Age Groups	No. of pupils inspect- ed	A. (Good)		B. (Fair)		C. (Poor)	
		No.	% of Col. 2	No.	% of Col. 2	No.	% of Col. 2
1	2	3	4	5	6	7	8
Entrants .....	920	403	43.8	496	53.9	21	2.3
2nd Age Group .....	739	310	41.9	418	56.6	11	1.5
3rd Age Group .....	1168	642	55.0	521	44.6	5	0.4
Other periodic Inspections..	74	20	27.0	53	71.6	1	1.4
Total .....	2901	1375	47.4	1488	51.3	38	1.3

TABLE III.

**TREATMENT TABLES****Group I.—Diseases of the Skin (excluding uncleanliness, for which see Table V).**

	<i>No. of Defects dealt with</i>
Ringworm—Scalp .....	3
Ringworm—Body .....	—
Scabies .....	1
Impetigo .....	—
Other Skin diseases .....	14

**Group II.—Eye Diseases, Defective Vision and Squint :**

External and other, excluding errors of refraction and squint .....	53
Errors of refraction (including squint) .....	623

Total ..... 676

No. of Pupils for whom spectacles were (a) prescribed .....	521
(b) obtained .....	464

**Group III.—Treatment of Defects of Ear, Nose and Throat :**

	<i>No. of Defects dealt with</i>
Received operative treatment :	
(a) for diseases of the ear .....	1
(b) for adenoids and chronic tonsillitis .....	133
(c) for other nose and throat conditions .....	9
Received other forms of treatment.....	23
	166

**Group IV.—Orthopaedic and Postural Defects :**

(a) No. treated as in-patients in hospitals or hospital schools.....	13
(b) No. treated otherwise, c.g., in clinics or out-patient departments.	363

**Groups V and VI.—Child Guidance Treatment and Speech Therapy :**

(a) under Child Guidance arrangements .....	20
(b) under Speech Therapy arrangements .....	—

**Group VII.—Other Defects :**

(a) Miscellaneous minor ailments .....	560
(b) Diseases of the lungs (excluding T.B.) .....	160*
(c) Tuberculosis—all forms .....	51
(d) Heart and circulatory diseases .....	19
(e) Hernia and other developmental abnormalities .....	33
(f) Other Diseases .....	179

Total .....	1002
-------------	------

\* Includes children examined as contacts of cases of tuberculosis and found to be normal.

TABLE IV.

**Dental Inspection and Treatment**

1. No. of pupils inspected by the Authority's Dental Officers :	
(a) Periodic age groups .....	6520
(b) Specials .....	12
(c) Total (periodic and specials) .....	6532
2. No. found to require treatment .....	4923
3. No. offered treatment .....	4903
4. Number actually treated .....	2453
5. Attendances made by pupils for treatment .....	3621
6. Half-days devoted to : Inspection .....	101
Treatment .....	611
Total .....	712
7. <i>Fillings</i> : Permanent Teeth .....	2086
Temporary Teeth .....	237
Total .....	2323
8. <i>No. of teeth filled</i> : Permanent Teeth .....	1999
Temporary Teeth .....	231
Total .....	2230
9. <i>Extractions</i> : Permanent Teeth .....	405
Temporary Teeth .....	3501
Total .....	3906
10. Administration of general anaesthetics for extraction .....	5
11. Other operations : Permanent Teeth .....	185
Temporary Teeth .....	34
Total .....	219

TABLE V.

## Infestation with Vermin

i. Total number of examinations in the Schools by School Nurses or other authorised persons .....	39632
ii. Total number of individual pupils found to be infested .....	211
iii. Number of individual pupils in respect of whom cleansing notices were issued (Sect. 54 (2) Education Act, 1944) .....	211
iv. Number of individual pupils in respect of whom cleansing orders were issued (Sect. 54 (3) Education Act, 1944).....	—

## APPENDIX

## AN EPIDEMIC OF INFLUENZA "B" IN ANGLESEY, 1954

Late in September, 1954, it was reported that an epidemic of influenza was affecting school children in Bangor and Caernarvon in the neighbouring county of Caernarvonshire. There was no sign of any spread of the epidemic to Anglesey for some weeks but towards the end of October it became clear that an epidemic was developing in this county also. The epidemic lasted about 7 weeks and during this time gradually spread until it had involved almost the whole county. Throughout it proved to be an epidemic affecting predominantly children of school age. General practitioners estimated that they saw three or four sick children for every affected adult. If this reflects the true incidence, the attack rate must have been from 15 to 20 times higher among children than among adults.

The extent to which adults were affected may be seen from the weekly number of new claims for sickness benefit which were submitted in the county during the period under review. These are shown graphically in Fig. 1, together with the corresponding figures for 1953. The base-line is the weekly average number of claims in the 35 weeks ending 30th November and the mean of the 1953 and the 1954 data have been taken for this purpose. The "moderate epidemic" line is the level reached when the number of claims rises to 250 per cent. of the base-line value.

It is evident that the curves for the two years diverge between mid-November and mid-December and although there was never an epidemic of major proportions among the insured population, there was an increase of 60 per cent. to 70 per cent. in the amount of sickness prevailing during this period.

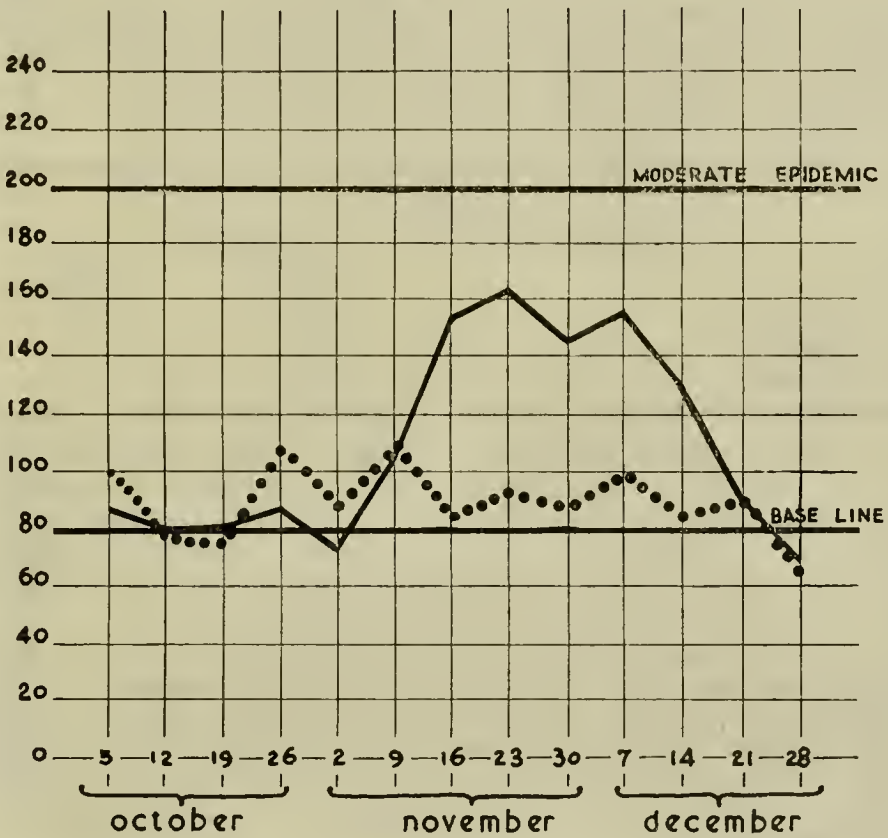
The average number of *deaths* at all ages during this period in 1953 was 13 per week and early in December 1954, the figure of 17 deaths occurred in one week. During the months of November and December 1954 there were 11 deaths registered where "influenza"



FIGURE 1

NEW CLAIMS FOR SICKNESS BENEFITS  
anglesey—october to december 1953 and 1954

— 1954 ..... 1953





or "influenzal pneumonia" were mentioned on the death certificate as the main or as a contributory cause of death, whereas there were no such deaths during the same period the previous years. Of the 11 deaths, two were of people in their 60's, 5 were between 70 and 80, and 4 were over 80 years of age.

During the last quarter of 1953 there were no notifications of "pneumonia" or "influenzal pneumonia" occurring, but during the same period in 1954 there were 5 such notifications.

### *School Attendance:*

The way in which the epidemic affected school attendance may be seen from the following table, which compares attendances in primary and secondary schools for the Autumn Term of 1953 with that of the Autumn Term of 1954. The secondary schools were affected to a greater extent than the primary schools:

TABLE I.  
Attendance during term as % of possible.

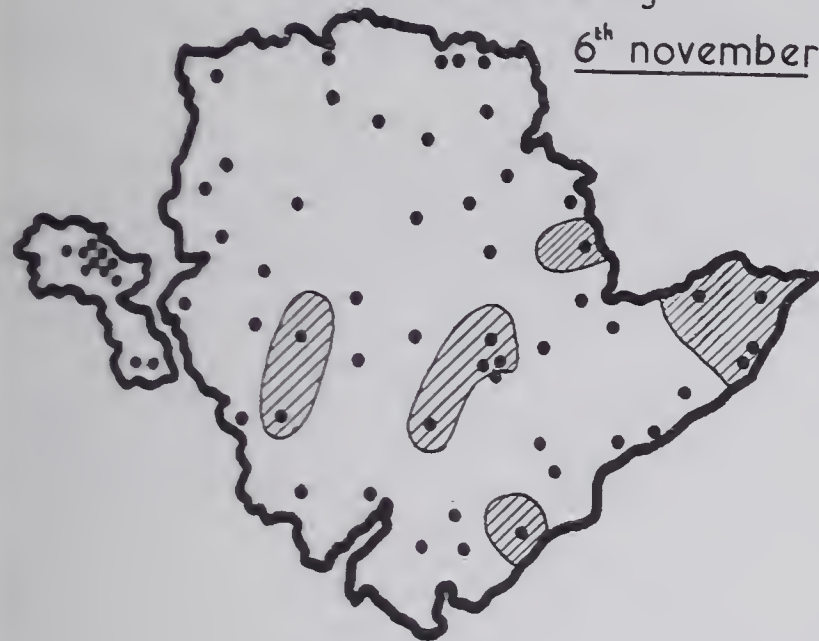
	<i>Autumn</i> 1953	<i>Autumn</i> 1954
Primary .....	91.7	87.3
Secondary .....	92.9	86.7
All schools .....	92.2	87.1

The attendance records of individual schools were examined for the period from 25th October—when the schools re-assembled after a mid-term break of one week—to the 17th December when the Christmas holiday commenced. From these records it is possible to establish the manner in which the epidemic progressed throughout the county. This is shown in the maps in Fig II.

As each school was affected (i.e., its attendance fell to 80 per cent. or below in any given week) the school and its catchment area are indicated on the map. It will be seen from these maps that the epidemic appeared in several places in the southern and eastern part of the county in the first week or two, and from there it spread to the remaining parts of the county but left a few pockets which were not affected at all.

Did the epidemic lose its virulence as time progressed? If a line is drawn from just west of Aberffraw to west of Amlwch, the county is divided into roughly equal areas. To the east of this line—the area affected in the early period of the epidemic—there is only one unaffected school out of 37 schools in all, whereas to the west of this line there are 7 unaffected schools out of a total of 25 schools. (The difference is statistically significant. Chi-squared equals 8.49 and

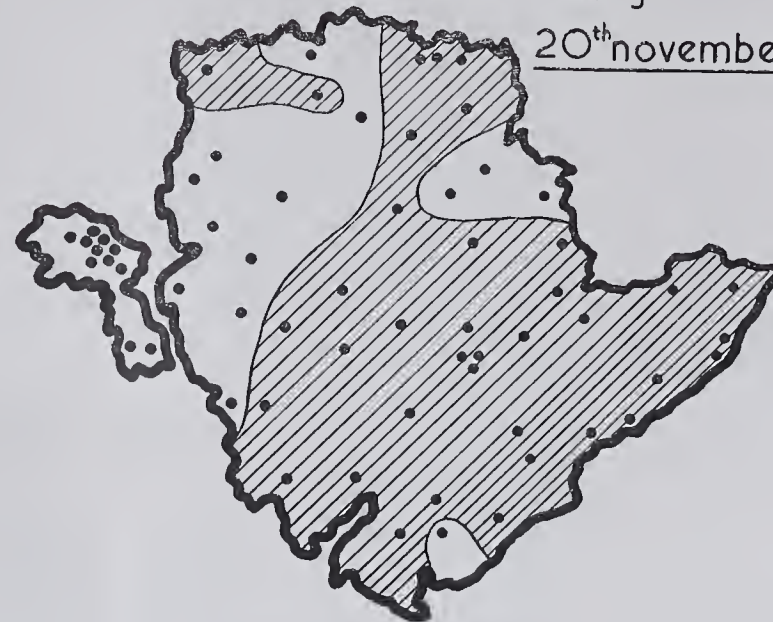
week ending  
6<sup>th</sup> november



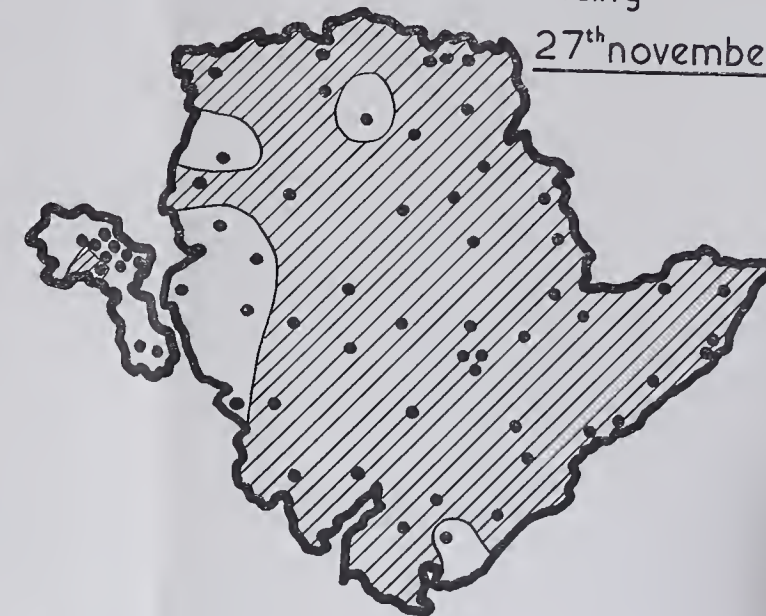
week ending  
13<sup>th</sup> november



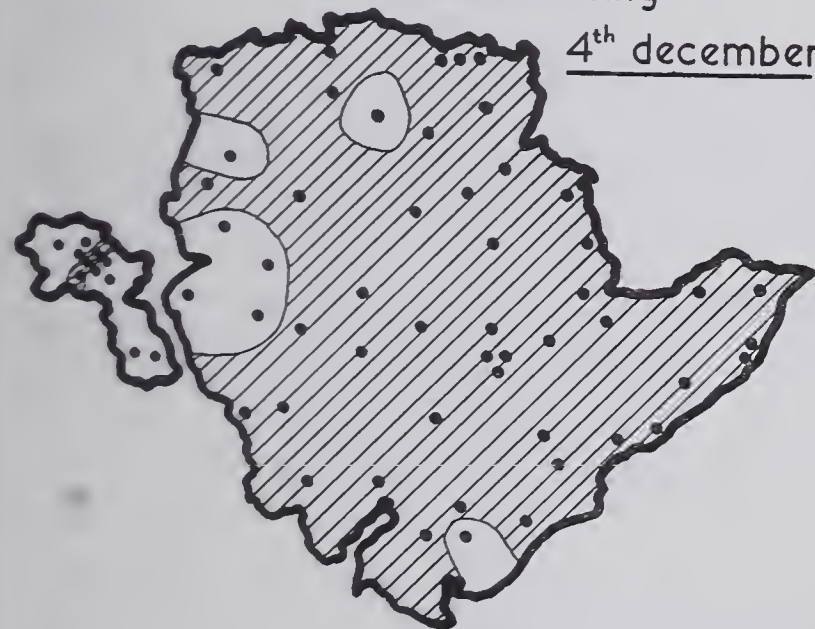
week ending  
20<sup>th</sup> november



week ending  
27<sup>th</sup> november



week ending  
4<sup>th</sup> december



week ending  
11<sup>th</sup> december



week ending  
18<sup>th</sup> december

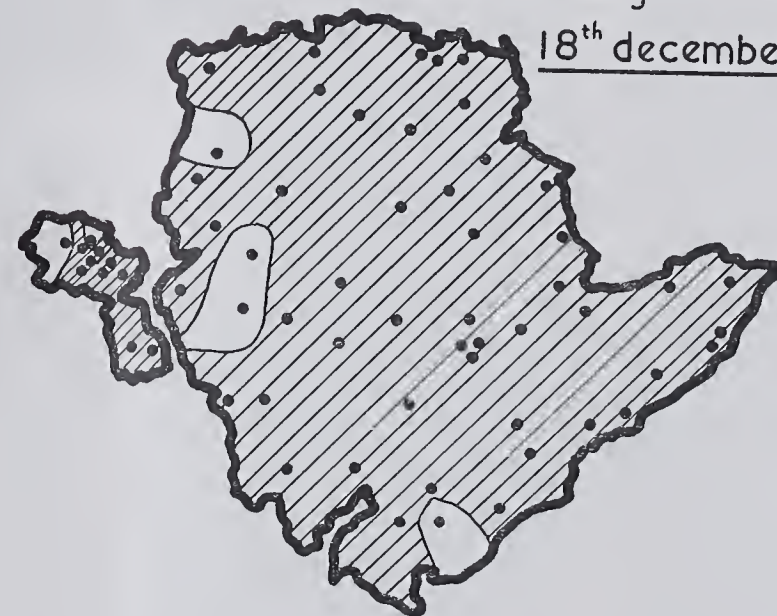


FIGURE II.

INFLUENZA "B" EPIDEMIC — 1954

MAPS TO SHOW THE  
SEQUENCE IN WHICH  
SCHOOLS WERE AFFECTED  
( see text for interpretation)





p is between 0.01 and 0.001). This, of course, is not certain evidence of a decline in virulence because some of the unaffected schools to the west of the line might have become affected had not the Christmas holiday intervened,

*Spread of Epidemic to and from Secondary Schools:*

Each of the 4 county secondary schools has a catchment area to which is allotted a number of primary schools. In the course of the development of secondary education facilities the boundaries of these catchment areas have not remained static so that in a few instances children of secondary school age from the same village may be attending two different secondary schools.

An analysis of the time sequence of the appearance of the epidemic in the 4 catchment areas is given in Table 2 taking the date on which attendance fell to 80 per cent. of possible as the date on which the epidemic became established in each affected school.

TABLE 2.  
Primary Schools by catchment areas showing week affected relative to corresponding Secondary School.

Catchment.	Prior to Secondary School	Same week as Second- ary School	Subsequent to Second- ary School	Primary sch. un- affected
Beaumaris .....	—	5	4	1
Llangefni .....	—	6	14	—
Amlwch .....	2	4	6	1
Holyhead .....	6	2	10	6

Both Beaumaris and Llangefni county secondary schools were affected in the first week of the epidemic simultaneously with 11 schools in their combined catchment areas. Of the remaining 19 schools in these areas, 18 were eventually affected, 17 of them within 2 weeks of the two secondary schools.

In the Amlwch catchment area, two primary schools were first affected followed by the senior school and, in the same week, 4 primary schools. Of the remaining 7 schools in this catchment area, 6 became affected within two weeks of the secondary school.

There are nine schools in Holyhead, and the first to be affected was the secondary school, possibly by way of outlying junior schools in its catchment area—six of these were affected before the senior school.

In Amlwch and Holyhead it is not unlikely that the infection reached the senior school by way of outbreaks in the villages served by these schools. In all the catchment areas the available evidence

is compatible with the concept of the senior school being a potent focus in disseminating the epidemic.

### *Age Incidence:*

In order to derive from the school registers the numbers of children affected by the epidemic the incidence of "absence spells" was ascertained. By "absence spell" is meant a period of absence lasting four or more consecutive days. This criterion was adopted because of the disturbing effect on school attendance of one or more days of severely inclement weather. For example, November 10th was a very wet and stormy day and the attendance at every school throughout the county was affected to a greater or lesser extent on that day.

The data for school children of all ages in Amlwch and Llangefni are shown in Table 3. These are absence spells per thousand at risk during the six weeks ended 2nd December when the epidemic was virtually over in these two areas.

TABLE 3.  
Age Incidence of Absence Spells.  
Spells of absence lasting 4 or more days during 6 weeks ending 2nd December, 1954, per 1,000 at risk.

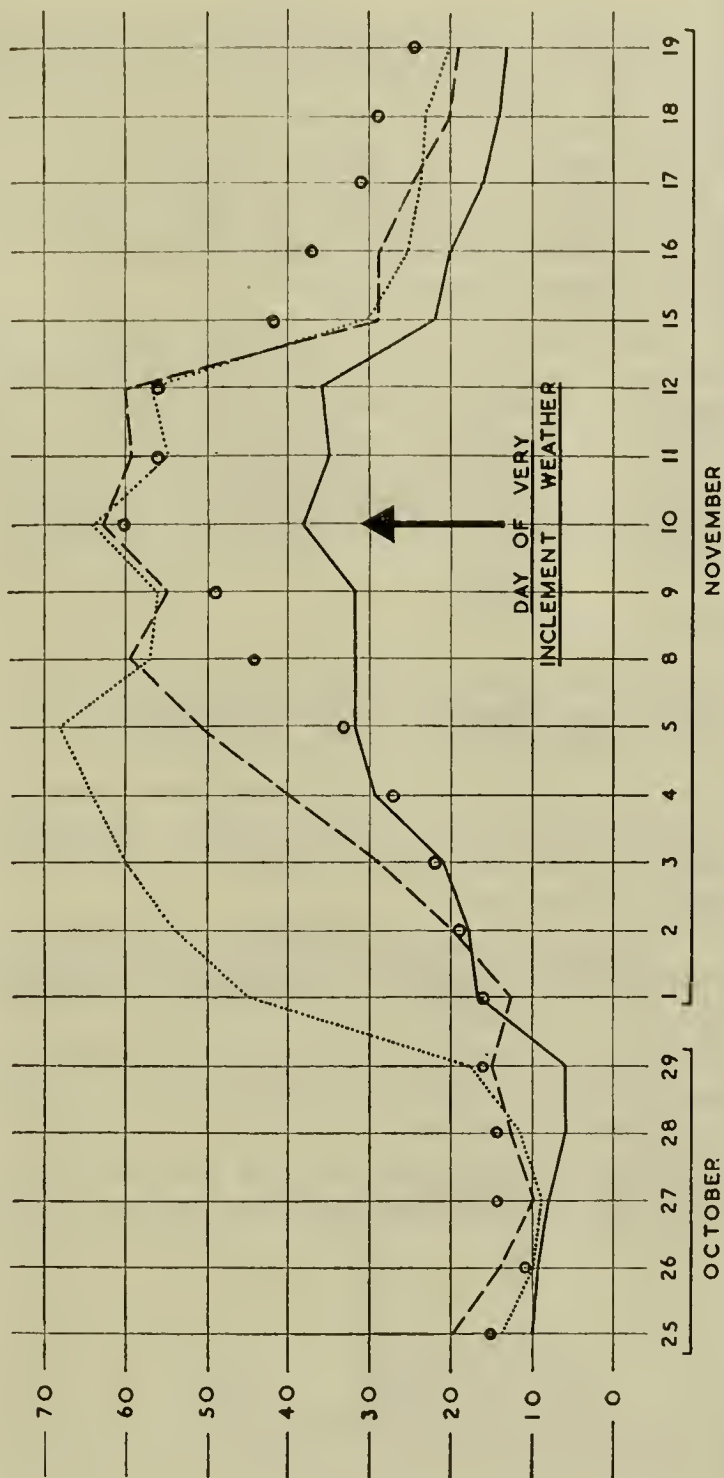
Class.	Age in years	Area:	
		Amlwch	Llangefni
Infants .....	Under 7	43.7	52.6
Standard 1—2.....	7—9	50.0	54.1
Standard 3—4.....	9—11	57.0	66.7
Forms I—II .....	11—13	68.6	77.8
Forms III—IV .....	12—14	65.1	63.2
Form V— .....	14—16	52.9	47.4
Form VI .....	15—18	36.4	31.2

The pattern is similar in the two areas. There was a maximum incidence of absence at ages 11 to 13, i.e., Forms I and II in the county secondary schools. On either side of this age range the absence spells appeared to diminish until they were comparatively low at either end of the range, i.e., under the age of 7 in the infant schools and over the age of 15 in the secondary schools. This differential age incidence is also evident in Fig. III where the percentage of children absent on each day is indicated by form for the Llangefni schools. The junior forms in the county secondary school were the first affected and they were the most severely hit. Subsequently Forms III and IV in the county secondary school were affected but to a lesser extent. Primary school children and senior children in the county secondary schools were affected later still and even less severely.

FIGURE III

LLANGFNI SCHOOLS. % ABSENT DAILY BY FORMS

- o o primary school
- ..... secondary forms I-II
- secondary forms III-IV
- secondary forms V-VI



The way in which the epidemic struck the different forms in the county secondary school, Llangefni, is instructive, and has been represented diagrammatically in Fig. IV. In the junior forms the epidemic was explosive in character and whereas up to 29th October the daily number of new absences in Forms I and II varied between 6 and 8, on the 1st November the number had jumped to 127. In the other forms new absences were more evenly distributed. The peak incidence in Forms III and IV occurred exactly a week after the peak incidence in Forms I and II.

The story in the county secondary school in Amlwch can be followed in Fig. V. In the junior forms of this school the outbreak was not as explosive in character as in Llangefni. During the week ending 12th November there was some increase in absences, with a sharp rise following the week-end break, i.e., on 15th November. Forms III and IV in Amlwch tend to follow the pattern in Forms I and II more closely than was the case in Llangefni.

### *Clinical Picture*

Enquiries were made from general practitioners in Amlwch, Holyhead and Llangefni and the clinical picture that emerges from the general practitioners' observations is as follows:—

Headache, malaise and limb pains were constant findings. Fever was usual and cough was quite common. Photophobia occurred in some cases but there was no diarrhoea. Vomiting occurred in a few cases, as did epistaxis.

The general practitioners did not, of course, see all the cases and in fact in Llangefni at the height of the epidemic practitioners saw only a comparatively small proportion of the total.

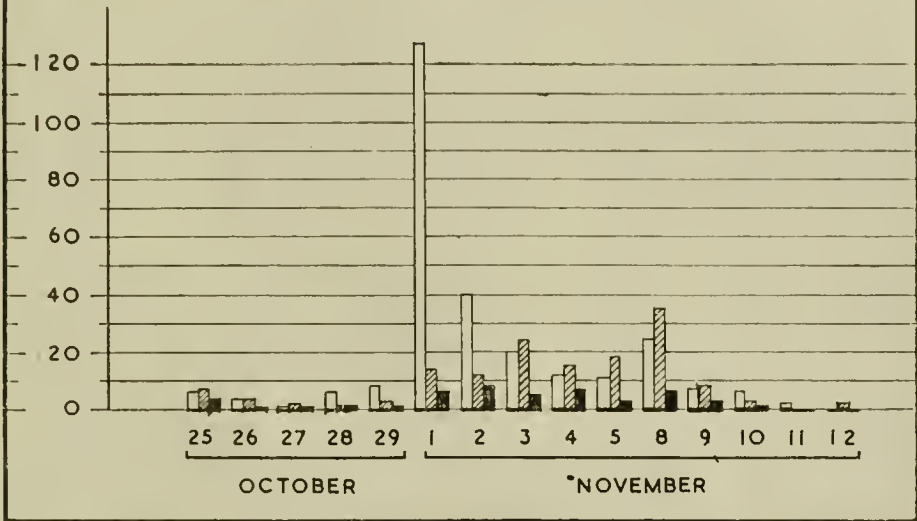
Four cases of severe epistaxis had to be admitted to the children's ward at St. David's Hospital, Bangor, and in one of these cases a small transfusion was necessary.

The laboratory particulars taken from a number of cases among adults and school children are set out in detail in Table 4.



FIGURE IV

LLANGEFNI CTY SEC. 4 DAY SPELLS BY 1<sup>st</sup> DAY OF ABSENCE



FORMS I—II      FORMS III—IV      FORMS V—VI

FIGURE V

AMLWCH CTY SEC. 4 DAY SPELLS BY 1<sup>st</sup> DAY OF ABSENCE

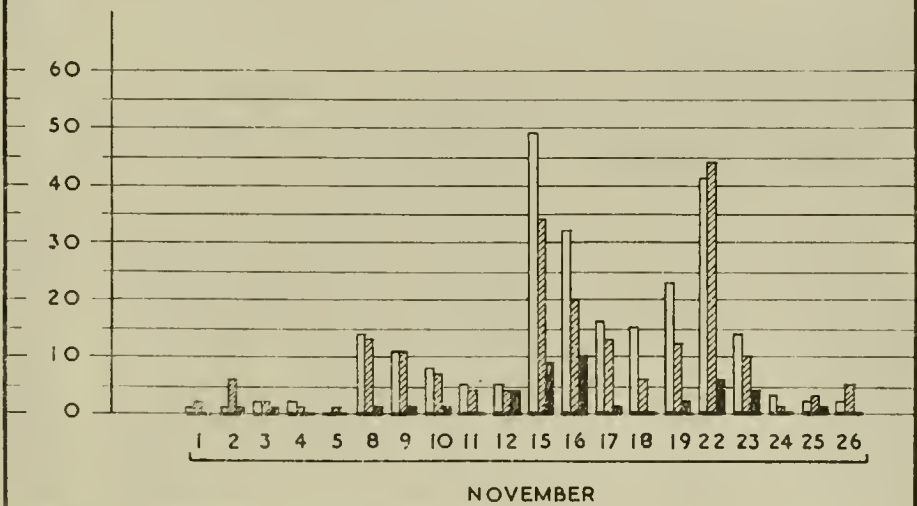


TABLE 4.  
Laboratory Findings—Gargles and Sera.

Case	Age	Area	Date onset	Gargle	Serum*	Vomiting
M.J. ....	19	Brynsiencyn	23/10	—ve	+ve	No
H.W.J. ...	67	"	25/10	—ve	NR	No
L.J. ....	68	"	22/10	NR	NR	No
K.O. ....	20	Dwyran	23/10	—ve	NR	No
G.B. ....	14	Llangefni	1/11	—ve	+ve	No
P.W. ....	8	"	2/11	—ve	NT	No
L.H. ....	8	"	2/11	—ve	NT	No
G.J.† ....	10	"	2/11	NT	—ve	Vomiting ++
J.W.W. ...	33	Amlwch Pt.	23/11	NT	+ve	Nausea+
D.J. ....	50	Amlwch	16/11	NT	+ve	Nausea++
T.J. ....	16	Amlwch	23/11	NT	+ve	No
J.J. ....	55	Amlwch	19/11	NT	+ve	Nausea+
J.F.E. ....	12	Amlwch	16/11	NT	+ve	Yes
A.O. ....	31	Amlwch	18/11	NT	NR	Yes
M.T. ....	12	Pensarn	21/11	NT	NR	No

\*Diagnostic rising titre to "B" virus.

NR.—No result.

NT.—Not tested.

† One specimen of blood only taken at an interval of 4 weeks from onset of illness and gave a complement fixation for Influenza A 1/8 Influenza B 1/8.

### *Vomiting as a symptom*

All children with four-day spells of absence among the school population of Llangefni, both primary and secondary, were investigated by the school nurses. Unfortunately an interval of four or five weeks had elapsed before this could be done. From the nurses' reports it appears that vomiting was rather more common than one had been led to expect from the general practitioners' findings. The incidence of vomiting among these children is shown in Table 5. 31 per cent of children vomited during their illness and the proportion of children vomiting tended to show the same age incidence as the four-day absences themselves.

TABLE 5.  
Incidence of vomiting among children with 4-day absence spells—  
Llangefni.

Class	At risk	Absence spells	No. with vomiting	% of spells with vomiting	Vomiting per 100 at risk
Infants.....	97	51	12	23.5	12.4
Std. 1—2 .....	98	53	14	26.4	14.5
Std. 3—4 .....	69	46	14	30.4	20.3
Forms I—II .....	414	282	103	36.5	24.9
Forms III—IV .....	310	163	46	28.2	28.2
Forms V—VI .....	127	47	9	19.1	7.1

The severity of the vomiting varied. Out of 198 cases of all ages which had vomited 20 had done so for two days, 13 for three days and 7 for more than 3 days. In one case vomiting had been intractable and had continued for 7 days.

The reports made by the nurses were examined for evidence of bias in the percentage reported as having vomited among those investigated by each nurse. The particulars are set out in Table 6. There is no evidence of bias on the part of the nurses in recording this feature.

TABLE 6.  
Frequency of vomiting as a symptom recorded by different nurses.

School Nurse.	Cases investigated.	Cases recorded as having vomited
A .....	43	14
B .....	81	23
C .....	75	29
D .....	86	25
E .....	77	21
F .....	138	46

F was a group of cases jointly investigated by 4 nurses.

Chi-squared=6.75

n=5

p=0.3 > 0.2

### *Second Attacks*

The nurses' reports revealed several instances of children who had had two attacks of illness, in one of which headache, sore throat, malaise, fever, were prominent features, while vomiting was not, and in the other attack the child vomited on one or more occasions. Instances were recorded where vomiting was a feature of the first absence spell while in other cases it occurred during the second spell. This raises the question of whether we were observing two concurrent epidemics—the one of influenza "B" and the other of the so-called "winter vomiting." If this was indeed the case, the two epidemics seemed to be inextricably mixed. Vomiting as a feature was not confined to any particular period in time and did not affect differentially children from different areas in the Llangefni catchment.

In one family 3 children all attending the same school were affected. In each case the vomiting persisted for three days. The first case occurred on 25th October and the other two cases occurred on 8th November.

*"Town" and "Country"*

In the Holyhead County Secondary School the population comprises of children who live in the town and children attending the school from villages in the surrounding countryside. The experience of these two groups was examined to discover any difference in age incidence and in incidence in point of time. The data (Table 7) suggest that although not conventionally significant there was a difference in susceptibility according to age and that generally speaking town children were less susceptible than country children. This difference, however, was only marked among children in Forms III and IV.

In Forms I, II and IV, but not in Form III, the maximum incidence of sickness absence all occurred on 29th November and the maximum incidence among town children and country children in the same form occurred on the same day in these three forms. This suggests that the infection was being disseminated in school. Only in Form III was there a suggestion that the country children became affected before the town children. In this form the maximum incidence among country children occurred on 22nd November and among town children on 6th December.

TABLE 7.  
HOLYHEAD COUNTY SECONDARY SCHOOL  
4-day absence spells: November 15th—December 17th.

		Town Children	Country Children	Chi-Squ'd
Forms I—II	at risk :	290	112	
	"absences" %	38.6	42.9	0.63
Forms III—IV	at risk	216	81	
	"absences" %	31.9	40.7	1.94
	Chi-squared	1.74	0.86	

*Comment*

There can be little doubt that we were witnessing an epidemic of influenza "B." Although the virus was not recovered from the garglings of the 7 patients tested, the rising titre in the serum of 7 out of 8 cases for which a result is available is very strong evidence for this conclusion.

A striking feature of the epidemic was the differential age incidence whereby children between the ages of 11 and 13 were

affected most severely. There is evidence also suggestive of a differential state of immunity for example as between town children and country children at Holyhead.

The explosive character of the outbreak in Llangefni was a noteworthy feature, and the frequency of vomiting as a symptom was unexpectedly high.

The use of school attendance records enabled the course of the epidemic to be followed. The gradual involvement of the whole county is seen to follow a regular pattern and there is a suggestion that the County Secondary Schools served as foci for disseminating the infection.

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